

We claim:

1. A host cell for recombinant DNA expression comprising *Flavobacterium heparinum*.  
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2. The host cell of claim 1 further comprising a vector.
3. The host cell of claim 2 wherein said vector is a plasmid system.
- 10 4. The host cell of claim 3 wherein said plasmid system is selected from the group consisting of a modified broad-host plasmid.
5. The host cell of claim 1 wherein said recombinant DNA is integrated into the *Flavobacterium heparinum* chromosome.  
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6. The host cell of claim 5 wherein said recombinant DNA is integrated through homologous recombination.
7. The host cell of claim 6 wherein a gene encoded by said integrated DNA is  
20 expressed at high levels.
8. The host cell of claim 5 wherein said recombinant DNA is integrated through any of bacteriophage integration, transposition of a transposon and transposition of an insertion sequence element.  
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9. The host cell of claim 1 further comprising a selective marker for selection of host cells expressing a desired recombinant DNA.
10. The host cell of claim 9 wherein said selective marker comprises one or more of a  
30 gene encoding antibiotic resistance, heavy metal resistance, a physiological growth inhibitory factor, and an amino acid requirement factor.
11. The host cell of claim 10 wherein said selective marker expression is regulated by a regulatory region from *Flavobacterium heparinum*.

12. The host cell of claim 11 wherein said regulatory region is the heparinase I gene regulatory region.
13. The host cell of claim 1 wherein said recombinant DNA is expressed under the  
5 control of a regulatory region from *Flavobacterium heparinum*.
14. The host cell of claim 13 wherein said regulatory region is the heparinase I gene regulatory region.
- 10 15. The host cell of claim 1 wherein said recombinant DNA is introduced into said cell by conjugation.
16. The host cell of claim 1 wherein said recombinant DNA is introduced into said cell  
by electroporation.
- 15 17. The host cell of claim 1 wherein said recombinant DNA is introduced into said cell by bacterial phage transfection.
18. The host cell of claim 1 wherein said cell glycosylates glycoproteins encoded by  
20 said recombinant DNA.
19. The host cell of claim 1 wherein said cell expresses recombinant DNA containing  
a homologous gene.
- 25 20. The host cell of claim 1 wherein said cell expresses recombinant DNA containing  
a heterologous gene.
21. A *Flavobacterium heparinum* host organism transformed with recombinant DNA comprising a homologous or a heterologous gene placed under the control of a  
30 gene promoter derived from a protein endogenous to the *F. heparinum* host and operably linked to the coding sequence for the homologous or heterologous gene.
22. The *F. heparinum* host organism of claim 21, wherein said gene promoter is *hepA*.

23. A method for producing a desired polypeptide or protein comprising expressing recombinant DNA comprising a coding sequence for the desired polypeptide or protein in a *F. heparinum* host organism;
- 5      24. The method of claim 23, wherein the expressed polypeptide or protein is glycosylated.
25. The method of claim 23, wherein the expressed polypeptide or protein is biologically active.
- 10     26. An expression system for expressing a desired polypeptide or protein comprising:
- (1)    a *F. heparinum* host organism
- 15    (2)    nucleotide sequences encoding a desired polypeptide or protein, and
- (3)    a vector for expressing the nucleotide sequences capable of expressing the desired polypeptide or protein.
- 20    27. A vector which upon introduction into a *F. heparinum* host cell effects expression of DNA encoding a desired polypeptide or protein, the vector comprising (a) a functional origin of replication (*OriC*) region; (b) replication (*rep*) genes; and (c) a gene promoter derived from a protein endogenous to the *F. heparinum* host.
- 25    28. The vector depicted in Figure 1.
29. The vector depicted in Figure 2.